This listing of claims will replace the originally filed claims in the application.

Listing of Claims

Claims 1 – 17 (canceled).

Claim 18 (new): Method of producing, in gaseous form and under high pressure, at least one fluid chosen from oxygen, argon and nitrogen in an air separation unit, in which all the air intended for distillation is compressed in a compressor, the compressed air is purified, at least a first portion of the air is supercharged to a high pressure, the compressed and purified air is sent into a heat exchange line of the installation where it cools, the compressed, purified and cooled air is separated in a system of columns of the unit comprising at least one distillation column, a fluid is withdrawn in the liquid state from one column of the system of columns, the said fluid in the liquid state is brought to the high pressure, it is vaporized by heat exchange with the air and the vaporized liquid at this high pressure is warmed in the heat exchange line of the installation, at least one portion of the supercharged air is expanded in an expansion turbine from the high pressure to a second pressure, the expanded air then being sent into one column of the system of columns, in normal operation the supercharged air being cooled down to the inlet temperature of the turbine in the exchange line upstream of the expansion turbine, wherein, during start-up of the air separation unit and/or in order to regulate the inlet temperature of the turbine and/or during a change of operation, at least one portion of the air supercharged to the high pressure is sent upstream of the expansion turbine without passing through the exchange line.

Claim 19 (new): Method according to Claim 18 in which:

- at least one portion of the air in the process of cooling in the heat exchange line is extracted from the latter at an intermediate temperature of the exchange line;
- the air is supercharged at the intermediate temperature in a cold blower to the high pressure;
- the supercharged air is reintroduced into the heat exchange line;
- a first portion of the supercharged air is sent into one column of the system of columns and a second portion of the supercharged air is sent

into the expansion turbine, the expanded air then being sent into one column of the system of columns;

- during start-up of the installation and/or during a change of operation and/or when the temperature at the turbine inlet falls below a predetermined threshold, at least one portion of the air extracted from the exchange line and supercharged in the cold blower is sent upstream of the expansion turbine without passing through the exchange line.

Claim 20 (new): Method according to Claim 19, wherein all the incoming air in the process of cooling is extracted, supercharged in the cold blower and reintroduced into the exchange line.

Claim 21 (new): Method according to Claim 19, wherein during start-up of the installation, all the air extracted from the exchange line and supercharged in the cold blower is sent upstream of the expansion turbine without passing through the exchange line.

Claim 22 (new): Method according to Claim 19, in which, when the temperature of the air supercharged in the cold blower is reduced to a predetermined temperature or after a predetermined time, no more supercharged air is sent upstream of the expansion turbine without passing through the exchange line.

Claim 23 (new): Method according to Claim 19 in which the inlet temperature of the cold blower is lower than the inlet temperature of the expansion turbine.

Claim 24 (new): Method according to Claim 18 in which at least one portion of the air is compressed to the high pressure, the air at the high pressure is sent into the hot end of the exchange line, a portion of the air is extracted from the exchange line at an intermediate temperature and expanded in the turbine and the rest of the air continues its cooling in the exchange line and in which, during start-up of the installation and/or if the inlet temperature of the turbine falls below a predetermined threshold, at least one portion of the supercharged air is sent directly to a supercharger which is used to supercharge at least one portion of the

air to the high pressure as far as the inlet of the turbine without having been cooled in the exchange line.

Claim 25 (new): Method according to Claim 24 in which all the air is compressed in the compressor and the supercharger to the high pressure or only a portion of the air is supercharged in a supercharger to the high pressure.

Claim 26 (new): Method of producing, in gaseous form and under high pressure, at least one fluid chosen from oxygen, argon and nitrogen, in which method, in stable operation, the air is compressed in a compressor, the compressed air is purified and sent into a heat exchange line of the installation in which it is cooled, the compressed, purified and cooled air is separated in a system of columns of the installation comprising at least one distillation column, a fluid is withdrawn in the liquid state from one column of the system of columns, the said fluid in the liquid state is brought to the high pressure, vaporized by heat exchange with air and the vaporized liquid is warmed at this high pressure in the heat exchange line of the installation:

- a flow of compressed nitrogen in the process of cooling in the heat exchange line is extracted from the latter at an intermediate temperature of the exchange line;
- the nitrogen is supercharged at the intermediate temperature in a cold blower up to the first pressure;
- the supercharged nitrogen is reintroduced into the heat exchange line;
- some or all of the supercharged nitrogen is sent into an expansion turbine, the expanded nitrogen then being sent into one column of the system of columns,

wherein, during start-up of the installation and/or when the inlet temperature of the turbine inlet falls below a predetermined threshold and/or during a change of operation, at least one portion of the nitrogen extracted from the exchange line and supercharged in the cold blower is sent upstream of the expansion turbine without passing through the exchange line.

Claim 27 (new): An apparatus for producing, in gaseous form and under high pressure, at least one fluid chosen from oxygen, argon and nitrogen, of the type

comprising a system of air distillation columns, a supercharger to supercharge at least one portion of the supply air or of cycle gas up to a high pressure, a heat exchange line bringing the incoming air and the fluids withdrawn from the system of columns, including the said fluid(s) in liquid form withdrawn from the distillation unit and compressed by a pump, into heat exchange relationship and a turbine the inlet of which is linked to the outlet of the supercharger by means that pass through the heat exchange line and is wherein the turbine inlet is also linked to the outlet of the supercharger by means that do not pass through the heat exchange line.

Claim 28 (new): The apparatus according to Claim 27, comprising a cold blower, means for supplying this cold blower with air or a cycle gas in the process of cooling taken at an intermediate temperature level from the heat exchange line, means for reintroducing the supercharged air or the supercharged cycle gas into passages of the heat exchange line that are linked to the turbine, the turbine inlet also being linked to the outlet of the cold blower by means that do not pass through the heat exchange line.

Claim 29 (new): The apparatus according to Claim 28, wherein it comprises means for sending all the air intended to be distilled to the cold blower.

Claim 30 (new): The apparatus according to Claim 28, wherein it comprises means for detecting the temperature of the air or of the cycle gas leaving the cold blower upstream of the heat exchange line.

Claim 31 (new): The apparatus according to Claim 28 comprising means for opening and closing the lines linking the inlet of the turbine with the outlet of the cold blower while passing through the passages of the exchange line and without passing through the passages of the exchange line.

Claim 32 (new): The apparatus according to Claim 28, wherein the turbine inlet being linked to the outlet of the cold blower by means that do not pass through the heat exchange line and that do not comprise cooling means.

Claim 33 (new): The apparatus according to Claim 27 comprising means for compressing all or some of the air intended for distillation at the high pressure upstream of the exchange line and means for sending the air at the high pressure from the supercharger as far as the hot end of the exchange line.

Claim 34 (new): The apparatus according to Claim 33 in which the turbine inlet and the supercharger outlet are linked via cooling means.